

## **REMARKS**

### **I. Interview Summary:**

Applicant wishes to thank the Examiner for considering the issues raised in the October 17, 2008 Office Action during the interview on February 13, 2009. During the interview, the Examiner and Applicant's attorneys discussed the cited prior art and claim amendments that would distinguish the prior art. Agreement was reached that the claim amendments discussed in the interview, which are reflected above, distinguish over the art of record. The remainder of the substance of the interview is further reflected below. Applicant believes the application is now in a condition for allowance and appreciates the Examiner's due consideration of the amendments above and the following comments.

### **II. Introduction**

Claims 1-27, and 37-42 are pending in the application, including independent claims 1 and 16. In the Office Action dated October 17, 2008, all the pending claims were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. Pub. No. 2002/0123791 ("Harrison"). The Examiner also rejected all the pending claims under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 6,042,606 ("Frantzen") in view of U.S. Pat. No. 6,464,720 ("Boatman").

Applicant has carefully considered the Examiner's comments. In order to expedite prosecution of Applicant's claims, claims 1 and 16 have been amended for clarification. Applicant respectfully requests reconsideration and withdrawal of the rejections in light of the amendments to the claims and the following remarks.

### **III. Rejoinder of Withdrawn Claims**

In the Office Action dated May 16, 2007, the Examiner required restriction of the claims to either the species shown in Figures 4 and 5, or the species shown in Figure 6. The Examiner also acknowledged that at least independent claims 1 and 16 are generic. In response to the restriction requirement, Applicant elected to pursue the

species shown in Figures 4 and 5. Applicant also added claims 43-50, which are directed to the species of Figure 6 and depend from generic claim 1. Dependent claims 43-50 were subsequently withdrawn as being directed to a non-elected species. As stated above and detailed below, Applicant believes generic claim 1 is presently in condition for allowance. Accordingly, Applicant respectfully requests rejoinder and allowance of withdrawn claims 43-50, which depend from claim 1 and thus necessarily require all the limitations of claim 1. See MPEP 821.04.

#### **IV. Harrison Does Not Anticipate Independent Claim 1**

Independent claim 1 was rejected as being anticipated by Harrison. As amended, claim 1 recites in relevant part:

a plurality of serpentine ring structures, wherein at least one of said ring structures comprises **a first key-hole shaped bend disposed at a first longitudinal end of said ring structure and a second key-hole shaped bend disposed at said same first longitudinal end of said ring structure**, said first and second key-hole shaped bends being **disposed circumferentially adjacent to one another at said same end of said same ring structure and being longitudinally staggered with respect to one another**, said first and second key-hole shaped bends thereby avoiding abutment against one another when said stent is in an **unexpanded state**, and a plurality of strut members, wherein each of said first and second key-hole shaped bends has a **first end connected to one of said strut members and a second end connected to another of said strut members**, said strut members extending away from said first and second key-hole shaped bends **in substantially the same direction**.

Harrison fails to teach at least these elements.

Harrison is directed to a stent having increased vessel coverage. The stent is comprised of a plurality of cylindrical elements 12, each cylindrical element 12 being comprised of a plurality of straight stent struts that are connected by double-curved portions having a "W" shape 21 and "V" shaped keyhole portions 23 and 22. Para. [0040]; Figs. 4-9. As shown in Figures 4-5a, for example, the "V" shaped bends 22, 23 and the "W" shaped bends 21 are arranged in an alternating pattern. Each of the "V"

shaped bends 22 are disposed at one end of the cylindrical element 12 (the top end), while each of the "V" shaped bends 23 and the "W" shaped bends 21 are disposed at the opposite end of the cylindrical element 12 (the bottom end). Figs. 4-5A. Two stent struts extend away from each "V" shaped bend 22 and angle downward toward the "V" or "W" shaped bends 23, 21, which are disposed on the opposite side of the cylindrical element 12. Figs. 4-9. As shown in Figures 4-9, each of the "V" shaped bends 22 are disposed at the **same longitudinal position at one end of each respective cylindrical element 12** and connect two stent struts extending away from the bends 22 in substantially the same direction (e.g. downward in Figs. 4, 5, and 5a). Likewise, each of the "V" shaped bends 23 are disposed at the **same longitudinal position at the opposite end of each respective cylindrical element 12**, and connect two stent struts that extend away from the bends in substantially the same direction (e.g. upward in Figs. 4, 5, and 5a), the direction being opposite direction the struts connected by bends 22. That is, for each cylindrical element 12, all of the bends 22 are disposed at the same longitudinal position on one end of the cylindrical element 12, and all of the bends 23 are disposed at the same longitudinal position on the opposite end of the cylindrical element 12. Consequently, for each cylindrical element 12, the "V" shaped bends 22 are necessarily longitudinally displaced from the "V" shaped bends 23, **but no longitudinal displacement exists between individual "V" shaped bends 22 on the same cylindrical element 12**. Thus, when the stent of Harrison is compressed or collapsed the circumferentially adjacent "V" shaped bends 22 of each cylindrical element 12 **must abut one another** in order to achieve maximum compression. See Fig. 5a.

In the Office Action, the Examiner has asserted that Figures 6-9 of Harrison disclose all the elements of claim 1. Specifically, the Examiner has asserted that the "V" shaped bend 22 of Harrison discloses the first keyhole bend of claim 1, and that the "V" shaped bend 23 of Harrison discloses the second keyhole bend of claim 1. Initially, Applicants note that such an interpretation of Harrison is incompatible with the language of previously presented claim 1, which requires **each of the first and second key-hole shaped bends** to have a first end connected to one of the strut members and

a second end connected to another of the strut members, the strut members **extending from the key-hole shaped bends in substantially the same direction**. As discussed above, and shown in Figures 4-9, the stent struts connected to each of the "V" shaped keyhole bends 22 **extend in the opposite direction** from the stent struts connected to each of the "V" shaped keyhole bends 23.

Additionally, Harrison also fails to disclose **a first key-hole shaped bend disposed at a first longitudinal end of a ring structure and a second key-hole shaped bend disposed at the same first longitudinal end of the ring structure**, the first and second key-hole shaped bends being **disposed circumferentially adjacent to one another at the same end of the same ring structure and being longitudinally staggered with respect to one another**, the first and second key-hole shaped bends thereby **avoiding abutment against one another when the stent is in an unexpanded state**, as recited in amended independent claim 1. As discussed above, the "V" shaped keyhole bends 22 of Harrison are located at the same longitudinal position for each cylindrical element 12, and are therefore not longitudinally staggered from one another. Further, because the "V" shaped bends 22 are disposed at the same longitudinal position, when the stent of Harrison is compressed, circumferentially adjacent "V" shaped bends 22 necessarily contact each other and cannot avoid abutment, as required by amended independent claim 1. For at least these reasons, Harrison does not anticipate independent claim 1, or any claim that depends from claim 1. Accordingly, independent claim 1 is allowable over the prior art of record.

#### **V. Harrison Does Not Anticipate Independent Claim 16**

Independent claim 16 was rejected as being anticipated by Harrison. As amended, claim 16 recites in relevant part:

a plurality of cylindrical, serpentine ring structures,  
wherein at least one of said ring structures comprises a plurality  
of strut members, a first key-hole shaped bend disposed at a  
**first longitudinal end of said ring structure**, and a second

key-hole shaped bend disposed at said **same first longitudinal end of said ring structure**, wherein each of said first and second key-hole shaped bends has a first end connected to one of said strut members and a second end connected another of said strut members, said strut members **extending away from said first and second key-hole shaped bends in substantially the same direction**, said first and second key-hole shaped bends being disposed **circumferentially adjacent to one another at said same end of said same ring structure and being longitudinally staggered with respect to one another**, said first and second key-hole shaped bends thereby avoiding abutment against one another when the stent is in an unexpanded state.

As discussed above in conjunction with claim 1, Harrison does not disclose a first key-hole shaped bend disposed at a **first longitudinal end of the ring structure**, and a second key-hole shaped bend disposed at the **same first longitudinal end of the ring structure**, wherein each of the first and second key-hole shaped bends has a first end connected to one of the strut members and a second end connected another of the strut members, the strut members **extending away from the first and second key-hole shaped bends in substantially the same direction**. Moreover, Harrison does not disclose first and second key-hole shaped bends being disposed **circumferentially adjacent to one another at the same end of the same ring structure and being longitudinally staggered with respect to one another**, the first and second key-hole shaped bends thereby avoiding abutment of against one another when the stent is in an unexpanded state.

For at least these reasons, Harrison does not anticipate amended independent claim 16, or any claim that depends from claim 16. Accordingly, independent claim 16 is allowable over the prior art of record.

## **VI. The Proposed Combination Does Not Render Independent Claims 1 and 16 Unpatentable**

In the Present Office Action, the Examiner argues that Figures 3 and 6 of Frantzen disclose all of the limitations of Applicant's claims except for the key-hole

shaped bends. The Examiner also argues that Figure 2 of Boatman discloses key-hole shaped bends. As discussed in Applicant's reply to the previous Office Action of April 8, 2008, Frantzen is directed to a radially expandable surgical stent having ring structures comprised of a plurality of bends arranged in a symmetrical non-staggered configuration. Figs. 3, 6. That is, bends that are located at any one end of the same ring structure (e.g. bends 40) and that have stent struts extending away in substantially the same direction are disposed at the same longitudinal position. See Figs. 3, 6. Thus, like Harrison, when the stent of Frantzen is compressed or collapsed, the struts extending away from each of the bends 40 or 50 are forced toward one another, thereby causing the circumferentially adjacent bends 40 at one end of the ring structure to abut one another, and the bends 50 at the opposite end of the ring structure to abut one another. Because of their symmetrical configuration, the circumferentially adjacent bends 40, 50 at each end of the ring structure must contact one another to achieve maximum compression of the stent.

Accordingly, the combination of Frantzen and Boatman as contemplated by the Examiner fails to teach or suggest a first key-hole shaped bend disposed at a **first longitudinal end of the ring structure**, and a second key-hole shaped bend disposed at the **same first longitudinal end of the ring structure**, wherein each of the first and second key-hole shaped bends has a first end connected to one of the strut members and a second end connected another of the strut members, the strut members **extending away from the first and second key-hole shaped bends in substantially the same direction**. Moreover, the proposed combination does not disclose first and second key-hole shaped bends being disposed **circumferentially adjacent to one another at the same end of the same ring structure and being longitudinally staggered with respect to one another**, the first and second key-hole shaped bends thereby avoiding abutment of against one another when the stent is in an unexpanded state, as recited in amended independent claims 1 and 16. For at least these reasons amended independent claims 1 and 16, and any claims that depend from claims 1 and 16, are allowable over the prior art of record.

**VII. Conclusion**

Applicant submits that the claims, as amended, patentably distinguish over the art of record. Applicant earnestly requests expedited consideration and allowance of this application.

Respectfully submitted,

/Thomas C. Burton/  
Thomas C. Burton  
Registration No. 60,811  
Attorney for Applicants

BRINKS HOFER GILSON & LIONE  
P.O. BOX 10395  
CHICAGO, ILLINOIS 60610  
(312) 321-4200

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